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The instability of shear vortex waves in a viscoelastic dusty plasma systems

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The influence of elliptical vortex on low frequency collective modes in viscoelastic (strongly coupled) dusty plasma is analyzed using the nonlinear version of the generalized hydrodynamic equation (GH). In the limit $\omega \gg kv_0$, it is shown that the correlation effects (dust thermal contribution, viscosity (η), and collisional terms, collision frequency (ν_{dn})) and the velocity shear of the vortex coupling supply the free energy for the secondary instabilities consisting of transverse shear waves. The analytical solution of such structure is discussed and the effective parameters of the growth rate of instability are demonstrated.

Biography

M Mahdavi Gharavi studies PhD from Kharazmi University. She is working on the astrophysical shear plasma systems more than 5 years. Up to now, she has published one paper in *Astrophysics and Space Science* journal, and also she has submitted more than 3 papers in this topic.

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